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Rationale for motivational interventions as pivotal element of multilevel educational and motivational project (MEDMOTION)

Uzasadnienie interwencji motywacyjnych jako kluczowego elementu projektu wielopoziomowej edukacji i motywacji u pacjentów z zawałem serca (MEDMOTION)

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Abstract

Introduction. The Multilevel EDucational and MOtivational intervention in patients after myocardial infarcTION (MEDMOTION) project has been designed to test the comprehensive strategy of treatment after acute coronary syndrome. The aim of MEDMOTION is to improve the efficacy of secondary prevention, complementing patients' education with motivational interventions.

Material and methods. Individualised motivation and complex health education, started during hospitalisation and continued after discharge, explaining the pathophysiology and symptoms of the disease, elucidating goals and potential benefits of treatment, and highlighting the risk of premature termination of therapy, with the use of additional methods helping patients to remember the treatment schedule, will be applied to enhance adherence to treatment, resulting in improved clinical outcomes. Interventions targeting the attitudes and knowledge of nurses and physicians form part of the MEDMOTION project, including analysis of the strengths and weaknesses of medical staff in the context of motivation and therapeutic education, workshops on interpersonal (medical staff and patient) communication, motivational and educational strategies.

Conclusion. We believe that motivational actions, complementing educational interventions, are essential for successful secondary prevention after ACS.

Key words: motivation, education

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Introduction

A widespread belief exists that better education of patients might improve clinical outcomes after acute coronary syndrome (ACS) due to the impact on cardiovascular risk factors (CVRFs) management [1, 2]. Lifestyle modifications and adherence to treatment has been shown to be effective in CVRFs management and to reduce major cardiovascular adverse events (MACE) [3, 4]. On the other hand, many patients do not follow medical recommendations [5, 6]. Early, in-hospital initiation of a preventive strategy including education and motivation might increase the likelihood of successful treatment [7, 8].

We have designed **M**ultilevel **ED**ucational and **MO**tivational intervention in patients after myocardial infarc**TION** (MEDMOTION) to test the comprehensive strategy of treatment after ACS.

The aim of MEDMOTION is to improve the efficacy of secondary prevention, complementing patient education with motivational interventions.

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Material and methods

The MEDMOTION project has been designed as a multicentre study with a two-year follow-up. After the observational phase of the study, a randomised, open-label, multicentre study phase is planned. The project is currently in the initiation phase.

We assumed that individualised, motivation and complex health education started during hospitalisation and continued after discharge, explaining the pathophysiology and symptoms of the disease, elucidating goals and potential benefits of treatment, and highlighting the risk of premature termination of therapy, with the use of additional methods helping patients to remember the treatment schedule, will enhance adherence to treatment and result in improved clinical outcomes [9–11].

Educational and motivational interventions within the MEDMOTION project will be applied as standardised procedures according to the previous experience of the Guidelines Applied to Practice (GAP) project [12]. The introduction of quality improvement procedures resulted in mortality reduction at 12 months. However, comparison of outcomes obtained in 11 control 'wanting to improve' hospitals that were not selected as one of the 10 GAP intervention hospitals demonstrated that the control hospitals did not achieve the level of change observed in the participating hospitals [13].

According to the findings of the meta-analysis by Auer et al. [14], interventions may be more effective when they target not only the patient but also the providers and the healthcare system.

Considering these findings, several interventions targeting the attitudes and knowledge of nurses and physicians are being conducted as a part of the MEDMOTION project, including analysis of the strengths and weaknesses of medical staff in the context of motivation and therapeutic education, workshops on interpersonal (medical staff and patient) communication, motivational and educational strategies.

One highly efficient way to achieve motivation for introducing dietary changes and healthy lifestyle behaviour of post-ACS patients is a motivational interview (MI) by medical and healthcare staff. MI is a widely used, scientifically-tested and clinically relevant method developed by Miller and Rollnick [15, 16] of patient counselling in primary and secondary care, successfully applied to a number of diseases and addictions. Effective application of both in-hospital MI interventions on cardiovascular disease risk factors as well as of post-discharge behavioural interventions (telephone-based, text messages) have been already reported [17–21]. MI has been also successfully used for lifestyle problems which are however closely connected with ACS interventions, *inter alia* for weight loss and smoking cessation [22], as well as for medication adherence [23].

MI promotes partnership-oriented counselling interventions of healthcare staff with the patient. It departs from the traditional prescriptive approach that relies on expert-driven persuasion by instead encouraging counselling, exhortation and support leading to patient-driven change initiation. Conducive to change implementation is the creation of a positive atmosphere and a collaborative relationship with the patient. Change elicitation results from evoking the patient's intrinsic motivation for behavioural change by drawing on personally meaningful goals. The patient's autonomy is fully respected, which entails shifting the decision to implement behavioural changes and the responsibility of change implementation outcomes from medical staff to patient.

Thus, change is not imparted but elicited, and, in consequence, is highly effective in sustained self-control instigating lifestyle changes. The four underlying principles that guide MI involve expressing empathy by medical staff, emphasising discrepancy between the current state and the patients' future well-being, 'rolling' with patients' resistance to change, and bolstering their self-efficacy and self-regulation [16]. These principles are immersed in a specific style of interpersonal communication which boils down to the keywords mentioned above, *i.e.* collaboration, evocation, and autonomy.

The MI approach to medical recommendations adherence in both in-hospital and post-discharge ACS patients is one of many methods that may boost patients' intrinsic motivation to maintain lifestyle modifications and enhance the long-term efficacy of CVRF management measures. Potentially, it may entail interventions resulting in the three key areas of post-ACS therapy: dietary changes, physical activity, and medication adherence. However, some training of healthcare staff is needed in education and support provision, and in interpersonal communication, as well as in patients' intrinsic motivation evocation and enhancement.

To allow direct efficacy evaluation of educational and motivational interventions, a comprehensive post-ACS in-hospital patient evaluation regarding readiness for hospital discharge is planned, as well as a post-discharge assessment of adherence to pharmacological treatment and functioning in the follow-up phase, and the use of dedicated self-reported questionnaires. It is expected that a comprehensive, multi-stage assessment of patients would improve the quality of medical care by personalising educational and therapeutic interventions [24, 25]. The Readiness for Hospital Discharge after Myocardial Infarction Scale (RHD-MIS) [26] was designed for in-hospital evaluation, while the Adherence in Chronic Diseases Scale (ACDS) [27–30] and the Functioning in Chronic Illness Scale (FCIS) [31, 32] were devised for the examination during follow-up visits.

The RHD-MIS was developed as a tool to improve the quality of the discharge process, enabling assessment of the patients' knowledge, expectations and concerns, as

well as identifying any field requiring additional intervention in clinical conditions [26]. The questionnaire consists of 23 questions: 16 self-reported by patients (a subjective assessment of patients' knowledge — seven items, and expectations — nine items) and seven assessed by the medical staff during a consultation with the patient (an objective assessment of patients' knowledge). An additional five not-scored items reflect the patient's situation [26, 32].

The ACDS is a reliable tool allowing the identification of subjects prone not to follow the prescribed therapy [27]. Moreover, it determines the most common non-adherence reasons. This simple and easy-to-apply in everyday practice questionnaire has the potential to improve adherence to treatment and clinical outcome. All seven items refer to determinants of adherence associated with behaviours and factors that can indirectly influence adherence and are related to situations and patients' convictions [27–30].

The FCIS has been designed for comprehensive assessment of the overall functioning of the patient in chronic disease [31]. The impact of the disease essentially covers all areas of human functioning, including the physical, emotional and spiritual spheres, as well as functioning in society [31, 32]. The questionnaire consists of 24 questions divided into three parts evaluating the impact of the disease on the patient (eight items), the patients' impact on the disease (eight items), and the impact of the disease on patients' attitudes (eight items). The FICS evaluates various aspects of how patients function with chronic disease in a quick and simple way, allowing the diagnosis of deficit areas in order to implement appropriate therapeutic and educational interventions [31]. The application of this diagnostic comprehensive strategy based on self-reported questionnaires previously tested in patients with coronary artery disease after ACS treated with PCI is planned to guide additional motivational and educational interventions application.

Discussion

Several multiple studies evaluating interventions targeting an increase in long-term adherence to treatment by patients have been previously performed [19, 33–36]. Ockene et al. [37] proposed a categorisation of interventions analysing long-term adherence on the basis of a conceptual model that considers the levels of intervention. The first tier, patient-level interventions address patients directly through counselling, education, or patient-specific order sets [37]. The second tier, healthcare provider-level interventions concern the attitudes or knowledge of healthcare providers (*e.g.* improving physicians' skills and effectiveness in counselling through an educational programme or education/ /reminders on the benefits of specific therapies) [37, 38]. The third tier, system-level interventions investigate global change in the organisation of care (*e.g.* critical pathways or facility outcome reporting) [37, 39].

Recognising this categorisation of interventions, Auer et al. [14] conducted a systematic review and meta-analysis to determine whether in-hospital secondary prevention interventions improve outcomes of patients who have suffered an acute coronary syndrome. The systematic review included at least patient-level interventions, with some operating additionally at the provider and/or system levels in 16 clinical controlled trials (2,467 patients) and in 10 before-and-after studies (38,581 patients) [14].

The overall pooled relative risk (RR) for all-cause mortality between the intervention and control groups was 0.78 [95% confidence interval (CI): 0.71–0.86) using a random-effect model. The favourable result was mainly driven by results obtained in before-and-after studies that examined 3,680 deaths RR = 0.77 (95% CI: 0.66–0.90), while no benefit was observed in clinical controlled trials RR = 0.96 (95% CI: 0.64–1.44) based on analysis of 99 deaths. Moreover, if the intervention involved only patients through counselling and education, the RR was 0.93 (95% CI: 0.63–1.36), whereas it was 0.77 (95% CI: 0.65–0.92) if the intervention also included a provider-level or system-level intervention. However, continuation of interventions in an outpatient setting was not associated with better outcomes compared to in-hospital interventions only (RR = 0.84, 95% CI: 0.58–1.22 vs. RR = 0.78, 95% CI: 0.65–0.94 respectively) [14]. The RR for reinfarction was 0.59 (95% CI: 0.32–1.07), however substantial heterogeneity (p = 0.04) was observed, thus the results should be considered with caution. For before-and-after studies that examined only 41 reinfarctions, RR was 0.81 (95% CI: 0.20–3.31), while for clinical trials the RR was 0.51 (95% CI: 0.23–1.13) based on analysis of 87 reinfarctions [14].

The evidence of the impact of interventions aimed at increasing long-term adherence to treatment on mortality is promising, but not definitive because it was seen in before-and-after studies only, not in clinical controlled trials [14]. Accordingly, a large scale randomised controlled clinical trial comparing prevention interventions with usual care is needed.

The MEDMOTION project answers this call. The non-systematic review previously published by Duryee showed no benefits from in-hospital education after myocardial infarction that considered only isolated patient-level interventions [1]. Therefore, the MEDMOTION project will apply multilevel (in-hospital, early post-discharge — up to the end of the first year, and late post-discharge — up to the end of the second year of follow-up), standardised (standard MEDMOTION brochures, scenarios and scales), and personalised educational and motivational interventions (tools selected according to personal needs).

Conclusion

We believe that motivational actions complementing educational interventions are essential for successful secondary prevention after ACS.

Conflict(s) of interest

The authors declare no conflict of interest.

Streszczenie

Wstęp. Wielopoziomowę interwencję edukacyjną i motywacyjną u pacjentów po zawale serca [*Multilevel EDucational and MOtivational intervention in patients after myocardial infarcTION* (MEDMOTION)] zaprojektowano w celu przetestowania kompleksowej strategii leczenia po ostrym zespole wieńcowym (ACS). Celem projektu MEDMOTION jest poprawa skuteczności profilaktyki wtórnej poprzez uzupełnienie edukacji pacjentów interwencjami motywacyjnymi.

Materiał i metody. Zindywidualizowana motywacja i kompleksowa edukacja zdrowotna rozpoczęta podczas hospitalizacji i kontynuowana po wypisaniu, wyjaśniając patofizjologię i objawy choroby, ukazując cele i potencjalne korzyści leczenia oraz podkreślając ryzyko przedwczesnego zakończenia terapii, z wykorzystaniem dodatkowych metod pomagających pacjentom pamiętać harmonogram leczenia, zostaną zastosowane w celu poprawy przestrzegania zaleceń terapeutycznych oraz uzyskania lepszych wyników leczenia. Interwencje ukierunkowane na postawy i wiedzę pielęgniarek oraz lekarzy, stanowiące część projektu MEDMOTION, obejmują analizę mocnych i słabych stron personelu medycznego w kontekście motywacji i edukacji terapeutycznej, warsztaty na temat komunikacji interpersonalnej (między personelem medycznym a pacjentem), stosowania strategii motywacyjnych i edukacyjnych.

Wniosek. Zdaniem autorów działania motywujące uzupełniające interwencje edukacyjne są niezbędne do skutecznej prewencji wtórnej po ACS.

Słowa kluczowe: motywacja, edukacja

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